

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: William O. Burke, III et al.

Serial Number: 09/128,289

Filed: August 3, 1998

For: **FLOOR MAT EXHIBITING REDUCED  
RIPPLING EFFECTS AND IMPROVED  
DELAMINATING CHARACTERISTICS OF ITS  
TUFTED PILE FIBERS**

Group Art Unit: 1771

Examiner: C. Juska

*4/13  
9-17-01  
Cme*

**BRIEF ON APPEAL UNDER 37 CFR § 1.192**

Box AF  
Commissioner for Patents  
Washington, DC 20231

Sir:

This Brief is in support of the Appeal filed on or about February 7, 2000, taken with respect to the Final Action dated November 21, 2000, rejecting claims 1-8 and 10-17.

**REAL PARTY IN INTEREST**

Milliken Research Corporation, P.O. Box 1926, 920 Milliken Road, Spartanburg, South Carolina 29303 (Assignee).

**RELATED APPEALS AND INTERFERENCES**

No appeals or interferences have been filed or exist.

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**STATUS OF THE CLAIMS**

Claims 1-8 and 10-17 have been rejected and claim 9 has been cancelled.

**STATUS OF THE AMENDMENTS**

None filed after Final Action.

**DETAILED DESCRIPTION OF THE INVENTION**

Provided within this application are claims to a unique and specific floor mat article which exhibits improvements in rippling and delamination effects.

Such a floor mat article is defined as follows:

A floor mat (12) comprising a non-woven carpet pile substrate; (16) a pile material (14) tufted into said non-woven carpet pile substrate (16) which forms a pile surface on one side of said substrate (Figure 3); and a vulcanized expanded rubber backing sheet of rubber (20) integrated to the other side of the carrier fabric, wherein said rubber backing sheet (20) comprises a blowing agent to produce a closed cell structure foam rubber (Page 6, lines 14 & 15); and optionally, solid vulcanized rubber reinforcement strips (24) present along at least one of the borders of the mat; wherein said floor mat possesses suitable flexibility to be laundered on a regular basis in a standard industrial washing machine without appreciably damaging said mat or said machine; and wherein said non-woven carpet pile substrate possesses a heat shrinkage factor of from about 2.0 to about 2.5% (page 14, lines 11-13) and said rubber backing sheet possesses a heat shrinkage factor of from about 2.0 to about 2.5% (Page 15, lines 13-16).

The floor mat next above wherein at least one solid vulcanized rubber reinforcement strip is present and possesses a heat shrinkage factor of from about 2.0 to about 2.5% (Page 9, line 14-16).

The floor mat first above wherein said carpet pile substrate is comprised of natural or synthetic fibers; and said pile material is comprised of natural or synthetic fibers.

The floor mat first above wherein said carpet pile substrate is comprised of fibers selected from the group consisting essentially of polyester, nylon, polypropylene, cotton, and blends thereof (Page 12, line 7); and said pile material is comprised of synthetic fibers (Page 8, lines 5 & 6).

The floor mat first above wherein said carpet pile substrate is comprised of polyester fibers (Page 12, line 7); and said pile material is comprised of 100% solution dyed nylon fibers (Page 8, line 5 & 6).

The floor mat first above wherein said carpet pile substrate weighs from about 3.5 to about 4.5 ounces per square yard (Page 2, line 4).

The floor mat first above wherein said carpet pile substrate weighs from about 4.0 ounces per square yard. (Page 15, line 7)

The floor mat first above wherein silica is added to the rubber backing sheet (Page 16, lines 2&3).

A floor mat (12) comprising a non-woven carpet pile substrate (16); a pile material (14) tufted into said non-woven carpet pile substrate (16) which forms a pile surface on one side of said substrate (FIG. 3);

a vulcanized expanded rubber backing sheet of rubber (20) integrated to the other side of the carpet pile substrate; and

optionally, solid vulcanized rubber reinforcement strips (24) present along at least a plurality of borders of the mat;

wherein said floor mat possesses suitable flexibility to be laundered on a regular basis in a standard industrial washing machine without appreciably damaging said mat or said machine;

wherein said non-woven carpet pile substrate possesses a shrinkage factor of from about 2.0 to about 2.5% (page 14, lines 4-13 ); and

wherein both said rubber backing sheet and said vulcanized solid rubber reinforcement strips possess a modulus strength of greater than about 1,000 pounds per square inch. (Page 7, last two lines)

The floor mat next above wherein  
said carpet pile substrate is comprised of natural or synthetic fibers; and  
said pile material is comprised of natural or synthetic fibers.

The second independent floor mat above wherein  
said carpet pile substrate is comprised of fibers selected from the group consisting essentially of polyester, nylon, polypropylene, cotton, and blends thereof (Page 12, line 7); and  
said pile material is comprised of synthetic fibers (Page 8, lines 5 & 6).

The second independent floor mat above wherein  
said carpet pile substrate is comprised of polyester fibers (Page 17, line 7); and  
said pile material is comprised of 100% solution dyed nylon fibers (Page 8, lines 5 & 6)

The second independent floor mat above wherein said carpet pile substrate weighs from about 3.5 to about 4.5 ounces per square yard (Page 2, line 14).

The second independent floor mat above wherein said carpet pile substrate weighs from about 4.0 ounces per square yard (Page 15, line 7).

The second independent floor mat above wherein silica is added to the rubber backing sheet (Page 16, lines 2 & 3).

Throughout these different descriptions, the key factor in providing the desired rippling improvements lies in the utilization of a low shrink nonwoven substrate compiled with either a low-shrink rubber backing sheet or a higher modulus strength rubber sheet (to compensate for any excess shrinkage by the nonwoven substrate).

### ISSUE

Whether Claims 1,3,4, and 10-13 are patentable under 35 U.S.C. § 103(a) over EP 702,929 in view of Kerr '631. Whether Claim 2 is patentable under 35 U.S.C. § 103(a) over EP 702,929 in view of Kerr '631 and Burke (WO 96/38298). Whether Claims 6,7,15, and 16 are patentable over EP702,929 in view of Kerr '631 and further in view of Heine '566. Whether Claims 5 and 14 are patentable under 35 U.S.C. § 103(a) over EP702,929 in view of Kerr '631, Heine '566 and Popper '877. Whether Claims 8 and 17 are patentable under 35 U.S.C. § 103(a) over EP702,929 in view of Kerr '631 and Hallworth '954.

### GROUPING OF CLAIMS

Claims 1-8 and 10 are in one group which are patentably distinct from Claims 11-17 which constitutes a second independent group.

### ARGUMENT

Claims 1-8 and 10-17 were rejected basically on EP702929 with a number of other patents added to meet additional limitations in the claims. The Examiner basically has passed off the critical limitation of Claims 1-8 and 10 that the substrate and the backing sheet possesses a heat shrinkage factor of from about 2.0 and 2.5%.


As pointed out in the specification (Page 14, line 13 and 14) standard substrates exhibit shrinkage rates from 3-7.5% which are substantially higher than that claimed and are not acceptable for industrial laundering over long periods of time. This critical range is not shown, anticipated or expected from any of the cited prior art and it is not seen, as suspected by the Examiner, that the Kerr reference suggest to one of ordinary skill in the out that the shrinkage can be cut to the range claimed especially the Kerr of the prior art is one of the inventors listed herein. It is submitted that the floor mat claimed herein provides the unexpected result of a substantially lowered shrinkage rate not anticipated in the prior art. There is no discussion at all within the cited prior art of the benefits available to the user upon utilization of such a specific low-shrink nonwoven substrate, namely both low-shrinking of the target mat when combined with specific types of rubber backing sheets, plus the reduction of lamination of the pile fibers from the mat itself. Applicant has shown the importance of such a critical selection within the specification. Nothing in the prior art even remotely suggests such modifications as now claimed. Without the requisite motivation to alter prior

art mats, there simply does not exist a basis for a proper obviousness rejection over the pending claims without improper hindsight reconstruction of Applicant's own teachings.

Claims 11-17 claim a substrate shrinkage rate combined with a mat modulus strength of greater than 1,000 pounds per square inch. Again none of the cited references meets this material limitations either alone or in combination so it is difficult to see how the cited out meets claim limitations when the prior art does not disclose, or suggest anticipate the critical limitations of the claims. The Office has merely passed off the limitations as obvious when they are not found within in the prior art. It is suggested that it should be recognized that these material limitations provide a commercially viable floor mat which can be employed in the industrial laundry business without damage thereto for long periods of time. As above, the office has used improper hindsight reconstruction of the Applicant's own teachings. Reversal is requested.

Therefore, it is respectfully requested that the rejections of Claims 1-8 and 10-17 be reversed and that the case be remanded to the Examiner for issuance.

Respectfully submitted,



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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to The Commissioner for Patents, Washington, DC 20231, on April 9, 2001, along with 1) Transmittal of Appeal Brief with a copy thereof; and a postcard receipt.



William S. Parks, Attorney for Applicant(s)

## **APPENDIX**

1. A floor mat comprising  
a non-woven carpet pile substrate;  
a pile material tufted into said non-woven carpet pile substrate which forms a pile surface on one side of said substrate; and  
a vulcanized expanded rubber backing sheet of rubber integrated to the other side of the carpet pile substrate,  
wherein said rubber backing sheet comprises a blowing agent to produce a closed cell structure foam rubber; and  
optionally, solid vulcanized rubber reinforcement strips present along at least one of the borders of the mat;  
wherein said floor mat possesses suitable flexibility to be laundered on a regular basis in a standard industrial washing machine without appreciably damaging said mat or said machine; and  
wherein said non-woven carpet pile substrate possesses a heat shrinkage factor of from about 2.0 to about 2.5% and said rubber backing sheet possesses a heat shrinkage factor of from about 2.0 to about 2.5%.
2. The floor mat of Claim 1 wherein  
at least one solid vulcanized rubber reinforcement strip is present and possesses a heat shrinkage factor of from about 2.0 to about 2.5%.



3. The floor mat of Claim 1 wherein

said carpet pile substrate is comprised of natural or synthetic fibers; and

said pile material is comprised of natural or synthetic fibers.

4. The floor mat of Claim 1 wherein

said carpet pile substrate is comprised of fibers selected from the group consisting essentially of polyester, nylon, polypropylene, cotton, and blends thereof; and said pile material is comprised of synthetic fibers.

5. The floor mat of Claim 1 wherein

said carpet pile substrate is comprised of polyester fibers; and

said pile material is comprised of 100% solution dyed nylon fibers.

6. The floor mat of Claim 1 wherein

said carpet pile substrate weighs from about 3.5 to about 4.5 ounces per square yard.

7. The floor mat of Claim 1 wherein

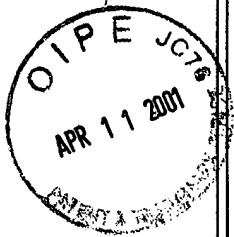
said carpet pile substrate weighs from about 4.0 ounces per square yard.

8. The floor mat of Claim 1 wherein

silica is added to the rubber backing sheet.

10. The floor mat of Claim 1 wherein  
said foam rubber backing sheet possesses a water absorption rate of below about 10%.
11. A floor mat comprising  
a non-woven carpet pile substrate;  
a pile material tufted into said non-woven carpet pile substrate which forms a pile surface  
on one side of said substrate;  
a vulcanized expanded rubber backing sheet of rubber integrated to the other side of the  
carpet pile substrate; and  
optionally, solid vulcanized rubber reinforcement strips present along at least a plurality of  
borders of the mat;  
wherein said floor mat possesses suitable flexibility to be laundered on a regular basis in a  
standard industrial washing machine without appreciably damaging said mat or said machine;  
wherein said non-woven carpet pile substrate possesses a shrinkage factor of from about 2.0 to about  
2.5%; and  
wherein both said rubber backing sheet and said vulcanized solid rubber reinforcement strips  
possess a modulus strength of greater than about 1,000 pounds per square inch.
12. The floor mat of Claim 11 wherein  
said carpet pile substrate is comprised of natural or synthetic fibers; and  
said pile material is comprised of natural or synthetic fibers.

13. The floor mat of Claim 11 wherein  
said carpet pile substrate is comprised of fibers selected from the group consisting essentially of  
polyester, nylon, polypropylene, cotton, and blends thereof; and  
said pile material is comprised of synthetic fibers.
14. The floor mat of Claim 11 wherein  
said carpet pile substrate is comprised of polyester fibers; and  
said pile material is comprised of 100% solution dyed nylon fibers.
15. The floor mat of Claim 11 wherein  
said carpet pile substrate weighs from about 3.5 to about 4.5 ounces per square yard.
16. The floor mat of Claim 11 wherein  
said carpet pile substrate weighs from about 4.0 ounces per square yard.
17. The floor mat of Claim 11 wherein  
silica is added to the rubber backing sheet.



AF/3732#

U.S. PTO Customer No. 25280

Case No. 2041

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**TRANSMITTAL OF APPEAL BRIEF AND  
AUTHORIZATION TO CHARGE DEPOSIT ACCOUNT**

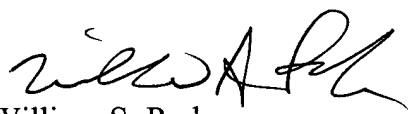
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Washington, D. C. 20231

Sir:

Applicant hereby transmits its Appeal Brief, in triplicate. Please charge the fee pursuant to 37 C.F.R. §1.17(c) of \$310.00 to Deposit Account No. 04-0500 as well as any additional fee required. A duplicate copy of this Authorization is provided.

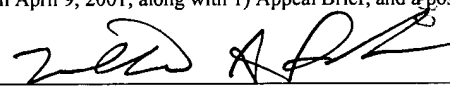
Respectfully requested,

April 9, 2001

  
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